

Determination: NFA

## PA/VSİ Or RFA FILE REVIEW CHECKLIST

Facility Name: Aero Plating Works Inc. \_\_\_\_\_

EPA ID: ILD 005 125 836 \_\_\_\_\_ City: Chicago \_\_\_\_\_ State: IL \_\_\_\_\_

Name of Reviewer: Maureen McHugh \_\_\_\_\_ Date of Review: 7/31/08 \_\_\_\_\_

1	Yes	No	Is this a one folder site?
2	Yes	No	Are there Superfund files for this site?
3	Yes	No	Did you Read the Executive Summary?
			There are: <u>5</u> SWMUs and <u>0</u> AOCs at this site.
4	Yes	No	Did you review the regulatory history?
5	Yes	No	Does the facility have interim status or a permit?
			This facility is a: _____ SQG, _____ LQG, or _____ Less than 90 day.
6	Yes	No	Was the Facility closed per RCRA?
			If Yes, was the closure: _____ CC, or _____ CIP.
7	Yes	No	Are there documented (historical) releases? Briefly describe on Page 2.
8	Yes	No	Were there releases identified during the inspection? Briefly describe on Page 2.
9	Yes	No	Do you agree with the Conclusions and Recommendations?
			If No, briefly describe on Page 2.

As a result of your review of the PA/VSİ or RFA file, please classify this site as:

  X   No further corrective action recommended or warranted: These are sites that closed the regulated units and any other SWMUs or AOCs at the site did not warrant any further corrective action (no historic releases or evidence of releases observed during the Visual Site Inspection).

       Further Action Required: Soil or sediment sampling or groundwater sampling or monitoring or any type of investigation that was recommended in the report in response to a documented or observed release at any SWMU or AOC and where such investigation, whether being addressed during the inspection or after, does not have the necessary documentation in the facility record files.

       More Information Needed: There is no RFA, PA/VSİ or RCRA closure information available.

## PA/VSI Or RFA FILE REVIEW CHECKLIST

Notes

Briefly describe any documented (historical) releases for any SWMU or AOC recorded in the report. For each release, please identify the SWMU or AOC and a one or two line description of release.

Soil samples taken from beneath the concrete floor at the former hazardous waste storage area (SWMU1) exceeded soil screening levels for lead, copper, and nickel. There was adequate containment and low levels of contamination so the IEPA approved closure without removal of the contamination.

Lead was detected above the SSL at SWMU2 but this unit was also allowed to close without removal.

IEPA also approved closure without removal for the nickel, chromium, and cyanide contamination at SWMU5  
Institutional controls were required for closure of all units.

Briefly describe any releases observed during the inspection for any SWMU or AOC recorded in the report. For each release, please identify the SWMU or AOC and a one or two line description of release.

PA/VSI Recommendations

NFA

D-8J

April 24, 1998

Ms. Patricia Brown-Derocher  
Regional Manager  
TechLaw, Inc.  
20 North Wacker Drive  
Suite 1260  
Chicago, Illinois 60606


Reference: contract No. 68-W4-00006; Work Assignment R05052

Dear Ms. Brown-Derocher:

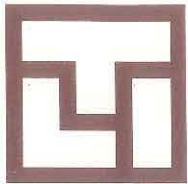
Thank you for your April 23, 1998, letter regarding the Aero Plating Works facility (ILD 005 125 836) located in Chicago, Illinois. I have read through the provided materials and have concluded that the revised submission along with the scoring sheets will constitute the final deliverable for the facility. Please provide a copy of the final report to the appropriate IEPA and facility contacts.

Do not hesitate to call me at (312) 886-0977 should you have additional questions or need additional clarification.

Sincerely,

  
Gerald W. Phillips  
Corrective Action Process Manager  
Waste, Pesticides and Toxics Division

cc: R. Young, TechLaw  
F. Norling, U.S. EPA



**TECHLAW INC.**

20 NORTH WACKER DRIVE, SUITE 1260, CHICAGO, IL 60606

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RZ2.R05052.01.ID.131

April 23, 1998

Mr. Gerald Phillips  
U.S. Environmental Protection Agency  
Region 5 D-8J  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Reference: EPA Contract No. 68-W4-0006; Work Assignment No. R05052; Preliminary Assessment/Visual Site Inspection Report; Aero Plating Works, Chicago, Illinois; EPA ID No. ILD005125836; PA/VSI Report and NCAPS Scoring Report; Task 04 Deliverable

Dear Mr Phillips:

Please find enclosed the Preliminary Assessment/ Visual Site Inspection (PA/VSI) Report and the NCAPS Scoring Report for the referenced facility.

As can be seen by the NCAPS Report, the total migration score is 14.70. Please note that this score is based on past releases of plating related wastes (containing nickel) at SWMUs 1, 2 and 5, and the fact that soils exceeding SSLs were left in place. However, the impacted soils are present beneath the concrete floor of the building and Illinois EPA has approved closure of each of the SWMUs based on the presence of institutional controls. Therefore, the NCAPS score appears to overestimate the current potential for releases at the facility.



Mr. Gerald Phillips  
April 23, 1998  
Page 2

Should you have any questions or require additional information, please feel free to contact me at 312/345-8963 or Mr. Rob Young at 312/345-8966.

Sincerely,



Patricia Brown-Derocher  
Regional Manager

cc: F. Norling, EPA Region 5, w/o attachments  
W. Jordan, Central Files  
R. Young  
Chicago Central Files

**PRELIMINARY ASSESSMENT/VISUAL SITE INSPECTION REPORT  
FOR  
AERO PLATING WORKS  
CHICAGO, ILLINOIS  
EPA ID NO. ILD005125836**

**Submitted to:**

**Mr. Gerald Phillips  
U.S. Environmental Protection Agency  
Region 5 D-8J  
77 West Jackson Boulevard  
Chicago, Illinois 60604**

**Submitted by:**

**TechLaw, Inc.  
20 North Wacker Drive  
Suite 1260  
Chicago, Illinois 60606**

**EPA Work Assignment No.  
Contract No.  
TechLaw WAM  
Telephone No.  
EPA WAM  
Telephone No.**

**R05052  
68-W4-0006  
Mr. Rob Young  
312/345-8966  
Mr. Gerald Phillips  
312/886-0977**

**April 23, 1998**

**PRELIMINARY ASSESSMENT/VISUAL SITE INSPECTION REPORT  
FOR  
AERO PLATING WORKS  
CHICAGO, ILLINOIS  
EPA ID NO. ILD005125836**

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Appendix D	Analytical Results (1-24-84 Sampling Event)
Appendix E	Documentation regarding sub-grade flooring

## I. EXECUTIVE SUMMARY

The RCRA Facility Assessment (RFA) is the first step in implementing the corrective action provisions of the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA). The purpose of the RFA is to identify environmental releases or potential releases from solid waste management units (SWMUs) and areas of concern (AOCs) that may require corrective action by the facility owner. A Preliminary Assessment/Visual Site Inspection (PA/VSI) is a form of an RFA suitable for implementing the corrective action provisions of HSWA. This PA/VSI Report constitutes the reporting requirement for the RFA at the Former Aero Plating Works facility in Chicago, Illinois.

A preliminary assessment (PA) of the available Illinois Environmental Protection Agency (IEPA) file materials was conducted to familiarize the TechLaw, Inc. (TechLaw) subcontractor Metcalf & Eddy, Inc. (M&E) with past compliance history, evidence of past releases, potential migration pathways, potential for exposure to any released hazardous constituents, closure methods and dates, citizen complaints, manufacturing processes and waste management practices at the Aero Plating Works facility. A Visual Site Inspection (VSI) was conducted on December 29, 1997 by a M&E team to identify and characterize SWMUs and AOCs. File material was provided to the M&E team during the VSI by Mr. Seymour Shiner, the current property owner and Mr. Dan Coyne of ACES Maintenance, an environmental consultant to Mr. Shiner. Photographs were taken during the VSI and are documented in Appendix A. The VSI Field Notebooks are included in Appendix B, and Site Maps showing the general facility location, and SWMU locations is presented in Appendix C.

A total of five SWMUs were identified. These are described in more detail in Sections III of this report. The release potential for three of the SWMUs was determined to be high based on the results of subsurface soil investigations which were performed as part of closure activities. The release potential for the other two SWMUs was determined to be low based on the results of the Preliminary Assessment and Visual Site Inspection.



## II. SITE DESCRIPTION

Aero Plating Works, Inc. operated a job-shop electroplating facility under SIC code 3471 in an establishment encompassing two connected buildings at 1850 and 1860 North (N.) Elston Avenue in Chicago, Illinois. Aero Plating performed nickel and chromium plating at the facility and was a hazardous waste generator. Currently the facility is a restaurant and night club and is not involved in any industrial activity. The facility no longer generates hazardous wastes.

The facility is located approximately 0.1 miles east of the Kennedy Expressway (Interstate Highway 94) at the corner of N. Elston Avenue and Cortland Street. A General Location Map showing the site location is included in Appendix C. The facility is currently operated as the River West Restaurant and Night Club. The building at 1850 N. Elston Avenue is an approximately 14,000 sq. ft. single floor building. The building at 1860 N. Elston Avenue is a two story building with a basement and a second floor totaling approximately 11,000 total sq. ft. The majority of the property is occupied by the buildings with the exception of a parking area at the rear of the buildings. All of Aero Plating's operations were performed inside of these buildings. It is assumed that the buildings are locked during the hours that the River West Restaurant and Night Club is not in operation.

The entire property is currently owned by Mr. Seymour Shiner. The property was previously owned by Mr. Louis J. Maiorano, Sr. from 1944 until 1988 when he sold it to Mr. Shiner. Mr. Shiner owned a portion of the property in 1982 and purchased the remainder of the property from Mr. Maiorano in 1988.

Mr. Louis J. Maiorano, Jr. leased the property from Mr. Louis J. Maiorano, Sr. in 1944 to open Aero Plating Works. Aero Plating Works occupied the facility until it ceased operations in 1984. The 1860 N. Elston address was then occupied by a small theater and art gallery on the first floor and offices on the second. The basement was used for storage by the art gallery. The 1850 N. Elston address was leased to a furniture manufacturer that made rattan furniture. The front portion of this address (east side) was set-up as a showroom, the remainder was used as the manufacturing facility. The 1860 N. Elston address changed to its current use in 1988 when Mr. Richard Post leased the property from Mr. Shiner to open the River West Nightclub. LSL Medical Industries, a sterilization company, also leased a portion of the 1850 N. Elston address along with the furniture company, after 1988. The furniture company ceased operation in 1993 and LSL Medical Industries ceased operations in 1996. Since then, River West has expanded into the 1850 N. Elston address.

Site use is unknown prior to the years in which Aero Plating Works was operating (ie., prior to 1944).

Aero Plating operated a job-shop nickel electroplating facility. There were three processes performed by Aero Plating which generated hazardous wastes; metal stripping, nickel plating, and waste water pretreatment.

The metal stripping process involved stripping decrepit or bare metal objects so that the plating process would adhere. The Former Metal Stripping Tanks (SWMU 5) were located in the southwest corner of the basement of the 1860 N. Elston building. A caustic solution containing cyanide was used as the stripping solution. Spent solutions from this unit were sent to the Former Waste Water Pretreatment Area (SWMU 2) for treatment at 1850 N. Elston. Waste solutions generated from this unit were classified as a hazardous waste (F009). The quantity of waste historically generated from this unit could not be determined from the file materials reviewed or from the current facility owner.

Cleaned metal was transferred to the first floor of the 1860 N. Elston building where the Former Nickel Plating Line (SWMU 3) was located. This plating line generated residues which were classified as hazardous waste (F008). About four, 55-gallon drums of this waste were generated per year. From the review of file materials, it also appeared that chrome plating was performed at the facility at one time. Drums of chromium solution were removed from the facility in 1984 and disposed as hazardous waste (D007).

Waste solutions from the Former Metal Stripping Tanks (SWMU 5) and Former Nickel Plating Line were sent to the Former Waste Water Pretreatment Area (SWMU 2) for pretreatment before discharge to the municipal sanitary sewer. Sludges generated from the waste water pretreatment process were classified as hazardous waste (F006). Approximately one 55-gallon drum of this waste was generated every six weeks.

It should be noted that process units such as plating lines and stripping tanks are generally not considered SWMUs. They have been conservatively designated as SWMUs in this report based on the potential for systematic releases over time and management of spent wastes after cessation of the process activities.

Hazardous wastes generated by Aero Plating were stored in the southwestern portion of the 1850 N. Elston building in the Former Hazardous Waste Storage Area (SWMU 1). Wastes were stored in this area for longer than 90 days. When the facility ceased operations in 1984, 59 drums of waste were removed from this area.

### Regulatory History

On September 14, 1983, the Illinois Environmental Protection Agency (IEPA) received a report of a trailer leaking an acidic liquid in the alley behind Aero Plating Works. A search warrant was obtained and the investigation discovered 38 drums of chrome plating solutions. According to a representative from Aero Plating, the source of the solution was a discontinued chrome plating line at Aero Plating. Several violations were noted during the IEPA inspection of Aero Plating. On January 24, 1984, the IEPA collected several samples at Aero Plating including samples from drums of chromic acid awaiting recycling, drums of hazardous "mud" which

were from cleaning up the basement area, sludge from the nickel plating tank, discharge from the waste water pretreatment unit, and miscellaneous drums at the facility. Many of these items were identified as hazardous waste. Copies of the Analytical results are included as Appendix D.

On February 13, 1986, an Initial Decision was recorded by the U.S. EPA Office of Administrative Law Judges regarding RCRA violations by Aero Plating. In response to this, Aero Plating filed a closure plan with the IEPA on October 16, 1987.

A Judgement Order, ordering Aero Plating to perform closure activities on the entire facility, was filed on October 28, 1987.

The IEPA reviewed the October 16, 1987 closure plan and disapproved it in a letter dated December 10, 1987. Reasons cited for the disapproval of the plan included deficiencies in the following areas: facility description; description of decontamination procedures; and, list of hazardous wastes treated, stored, or disposed at each unit. A revised closure plan (dated May 6, 1988) was resubmitted to the IEPA on June 6, 1988. This closure plan was conditionally approved by the IEPA in a letter dated July 25, 1988 from the IEPA to Louis J. Maiorano, Jr.

The next correspondence in the file was a letter from Scientific Control Laboratories, Inc. dated July 18, 1991 to Rodney Jacobs, Attorney at Law. This letter reported sampling results from floor wash samples from several areas within the facility, and two soil borings, one from the Former Waste Water Pretreatment Area (SWMU 2) and the other from the Former Hazardous Waste Storage Area (SWMU 1). The soil sample from the Former Hazardous Waste Storage Area (SWMU 1) indicated elevated levels of nickel. The samples were analyzed using the E.P. Toxicity procedure. The concentration of nickel found in the sample collected from the zero to six inch interval was 65.8 mg/L and the concentration of nickel found in the sample collected from the six to twelve inch interval was 32.4 mg/L. This necessitated revising the closure plan due to the discovered release and was documented in a September 4, 1991 letter from the IEPA to the U.S. EPA.

A revised closure plan was submitted to the IEPA by ACES Maintenance on behalf of Seymour Shiner (the current owner of the former Aero Plating property) on May 15, 1992. The IEPA disapproved the revised closure plan citing that the entire facility needed to undergo closure due to the longevity of the closure activities. They communicated this to Seymour Shiner in a letter dated February 11, 1993.

On January 27, 1994, ACES Maintenance, on behalf of Seymour Shiner, submitted a revised closure plan for the site addressing the comments from the February 11, 1993 IEPA letter. This closure plan was conditionally approved by the IEPA in a letter dated May 23, 1994.

In implementing the closure plan, ACES Maintenance performed soil borings in the Former Hazardous Waste Storage Area (SWMU 1) and discovered what was an apparent floor from a former basement. These findings were communicated to the IEPA in a letter dated November 8,

1995. In this letter, ACES Maintenance requested that the unit be granted closure based on the fact that the contamination appeared to be contained by the apparent floor and the current floor of the building. The IEPA conditionally granted closure to the facility in a letter dated February 9, 1996 which required institutional controls such as deed restrictions and maintenance of a cap (i.e., the current floor).

Aero Plating Works maintained a permit to operate a boiler at the 1860 N. Elston address. The permit ID number was 031600CTO.

### Environmental Setting

The former Aero Plating facility is located within the City of Chicago in Cook County, Illinois. The facility is located in an area that is primarily industrial/commercial. The nearest residential area is located approximately 1/4 mile west of the facility, on the opposite side of the Kennedy Expressway (Interstate Highway 94). A public storage facility is located across Cortland Street to the north of the facility. A Mobil gas station and car wash is located northeast of the facility diagonally across the intersection of Cortland and N. Elston. A restaurant and small plumbing shop are located east of the facility across N. Elston. Immediately south of the 1850 N. Elston address are the Bronze Memorial Co. that manufactures bronze memorials and the Wagner Foundry which produces signs and industrial and art casting. Across the alley behind the facility (to the west) is an appliance warehouse.

The regional geology/hydrogeology is described in an internal IEPA review memo dated December 8, 1995:

“Based upon the map entitled “Potential for Contamination of Shallow Aquifers from Land Burial of Municipal Wastes”, the former Aeroplating facility would have been sitting directly over uniform, relatively impermeable silty or clayey till at least 50' thick, with no evidence of interbedded sand and gravel.”

There are no groundwater wells located at the facility. Groundwater in the vicinity is generally five to 15 feet below the ground surface. Groundwater within three miles of the facility is not used for drinking water, agriculture, or industrial uses. Water is supplied to the area by the City of Chicago Water Department. The Water Department draws its water from Lake Michigan which is approximately two miles east of the former Aero Plating facility.

The topography of the site is relatively flat. Surface elevations in the site vicinity are approximately 590 feet above Mean Sea Level. Surface drainage flows through storm water drains, most likely east towards the North Branch of the Chicago River, which is located approximately 1/8 mile east of the facility (the closest surface water body). The North Branch of the Chicago River is primarily used by industry. Based on information for the City of Chicago, published by the Federal Emergency Management Agency (FEMA), the facility is not located in a special flood hazard area. The distance to the 100-year floodplain is unknown. Based on a

United States Geological Survey (USGS) topographical map of the area surrounding the facility, there are no wetlands or sensitive environments within two miles of the facility.

#### Release History

Soil investigations were performed as part of closure activities for the Former Hazardous Waste Storage Area (SWMU 1), Former Waste Water Pretreatment Area (SWMU 2), and the Former Metal Stripping Tanks (SWMU 5). In each of these investigations, contamination of subsurface soils was identified.

Soil samples taken from beneath the concrete floor at the Former Hazardous Waste Storage Area (SWMU 1) exceeded Soil Screening Levels (SSLs) for lead, copper, and nickel. Initially, it was planned that this soil would be removed to remediate the area. Soil borings performed to delineate the contamination discovered what appeared to be a floor beneath the soils. This was reported in a letter from ACES Maintenance to the IEPA, dated November 8, 1995. Based on the apparent containment of the contaminated soils combined with the relatively low levels of contamination and the regional geology, the IEPA approved closure of this area without removal of the soils. Institutional controls were required as part of the closure.

In the Former Waste Water Pretreatment Area (SWMU 2), lead was detected above the SSL in soil samples collected from borings in the area of this unit. As with the Former Hazardous Waste Storage Area (SWMU 1), the IEPA approved closure of this area without removal of the soils. Institutional controls were required as part of the closure.

The Former Metal Stripping Tanks (SWMU 5) were investigated by wipe samples of decontaminated surfaces and subsurface soil borings as part of closure activities. Walls and floors were decontaminated until the wipe samples were within IEPA clean criteria. The subsurface soil investigations did identify contaminated soil beneath the basement floor. Elevated levels of nickel, chromium, and cyanide were identified during the December 23, 1993 soil investigation. The IEPA approved closure of this unit without removal of these soils because excavation of the soils would have jeopardized the building's structural integrity. Institutional controls were required as part of the closure.

Soil investigations were not performed for the Former Nickel Plating Line (SWMU 3) or the Former Basement Hazardous Waste Storage Area (SWMU 4) due to their location on a floor under which there was a basement.

At the time of the VSI, the IEPA was awaiting information regarding the deed restrictions from Mr. Seymour Shiner. The deed restrictions will be used to determine the final closure status of the facility.

### III. SOLID WASTE MANAGEMENT UNITS

This section presents descriptions of the solid waste management units (SWMUs) identified during the PA and VSI at the Aero Plating Works facility. Photograph numbers correspond to those presented in the Photograph Log in Appendix A. A map depicting SWMU locations is provided in Appendix C.

**Table 1**  
**Solid Waste Management Units Summary**  
**Aero Plating Works, Chicago, Illinois**

<b>SWMU No.</b>	<b>SWMU Name</b>	<b>Release Potential</b>
SWMU 1	Former Hazardous Waste Storage Area	High
SWMU 2	Former Waste Water Pretreatment Area	High
SWMU 3	Former Nickel Plating Line	Low
SWMU 4	Former Basement Hazardous Waste Storage Area	Low
SWMU 5	Former Metal Stripping Tanks	High

## **SWMU 1 - Former Hazardous Waste Storage Area**

**Report Photograph No.:** 1

**Log Book Photograph No(s):** 1-7

**Period of Operation:** 1944 - 1984

**Location:** This unit was located in the 1850 N. Elston facility in the southwest portion of the building.

**Physical Description:** This unit comprised a 20-foot by 40-foot area where an aboveground storage tank was used to store sludges from the Waste Water Pretreatment Area (SWMU 2). Records indicate that other drummed hazardous wastes were also stored in this area. This area had a concrete floor and was located inside the building. The capacity of the tank was not stated in the file materials reviewed.

**Wastes Managed:** Wastes managed in this unit consisted primarily of sludges from the Waste Water Pretreatment Area (SWMU 2) which were classified as hazardous waste (F006). Based on the known hazardous wastes generated at the facility, the drums stored in this unit likely consisted of spent stripping solution (F009), residuals from the plating line tanks (F008), and chromium plating solutions (D007). The quantities of the wastes stored at this unit is not clear. When the facility ceased operations, fifty-nine (59) 55-gallon drums of hazardous waste were removed from this area and shipped offsite for disposal.

**History of Releases:** Soil samples collected from beneath the concrete floor in this area exceeded Soil Screening Levels (SSLs) for lead, copper, and nickel. Initially, it was planned that this soil would be removed to remediate the area. Soil borings performed to delineate the contamination discovered what appeared to be a concrete floor beneath the soils, as reported in a letter from ACES Maintenance to the IEPA, dated November 8, 1995. This letter is included as Appendix E to this report. Based on the apparent containment of the contaminated soils combined with the relatively low levels of contamination and the regional geology, the IEPA approved closure of this area without removal of the soils. Institutional controls were required as part of the closure. These include prohibition of digging in the area, maintenance of a concrete floor over the area and filing of a deed restriction with the Count Recorder.

**Potential for Past/Present Release:**

<b>High</b>	<b>( X )</b>
<b>Moderate</b>	<b>(   )</b>
<b>Low</b>	<b>(   )</b>

**Conclusions:** Although soils exceeding SSLs were left in place at this unit, the IEPA has approved closure of the unit with institutional controls. Therefore, no further investigation is recommended for this unit.



## **SWMU 2 - Former Waste Water Pretreatment Area**

**Report Photograph No.:** 2

**Log Book Photograph No(s):** 1-8

**Period of Operation:** 1944 - 1988

**Location:** This unit was located in the northeast corner of the 1850 N. Elston facility.

**Physical Description:** This unit occupied an area measuring approximately 30-feet by 70-feet. It received wastes from the Former Metal Stripping Tanks (SWMU 5) and the Former Nickel Plating Line (SWMU 3). The file material reviewed and information obtained during the VSI did not provide any details as to the type of pretreatment that was being performed. Sludges generated from this unit were transferred to and stored in the aboveground storage tank located in the Former Hazardous Waste Storage Area (SWMU 1). The pretreated water was discharged to the municipal sanitary sewer along N. Elston Avenue.

**Wastes Managed:** This unit generated one drum of sludge every 6 weeks. The sludge was classified as a hazardous waste (F006).

**History of Releases:** Lead was detected above the SSL in soil samples collected from borings in the area of this unit. Based on the apparent containment of the contaminated soils provided by the apparent concrete floor from a previous basement combined with the relatively low levels of contamination and the regional geology, the IEPA approved closure of this area without removal of the soils. Institutional controls were required as part of the closure.

**Potential for Past/Present Release:**

<b>High</b>	<b>( X )</b>
<b>Moderate</b>	<b>(   )</b>
<b>Low</b>	<b>(   )</b>

**Conclusions:** Although soils exceeding SSLs were left in place at this unit, the IEPA has approved closure of the unit with institutional controls. Therefore, no further investigation is recommended for this unit.

### **SWMU 3 - Former Nickel Plating Line**

**Report Photograph No.:** 3

**Log Book Photograph No(s):** 1-5

**Period of Operation:** 1944 to 1984

**Location:** This unit was located on the first floor of the 1860 N. Elston building at the north end of the facility.

**Physical Description:** This unit occupied an area measuring approximately 10-feet by 40-feet. It consisted of a nickel plating line that generated hazardous sludges (F008). Waste liquids were transferred to the Former Waste Water Pretreatment Area (SWMU 2). Further details relating to the actual design of the plating line were not available in the file materials reviewed as part of the PA or during the VSI.

**Wastes Managed:** The facility generated approximately four drums of nickel sludge from this unit per year. This sludge consisted of residuals that accumulated in the bottoms of the tanks in the plating line. This waste was classified as hazardous (F008). Waste liquids associated with the nickel plating operations were also managed at this unit.

**History of Releases:** No history of a release was identified during the PA or during the VSI.

**Potential for Past/Present Release:**

High	( )
Moderate	( )
Low	(X)

**Conclusions:** There has been no reported release at this unit. At the time of the VSI, there was no visible evidence that any release had occurred. Therefore, no further sampling or investigation is recommended at this unit.

**SWMU 4 - Former Basement Hazardous Waste Storage Area**

**Report Photograph No.:** 3

**Log Book Photograph No(s):** 1-5

**Period of Operation:** 1944 - 1984

**Location:** This unit was located in the west end of the first floor of the 1860 N. Elston building.

**Physical Description:** This unit covered an area measuring approximately 10-feet by 25-feet. Nine drums of hazardous waste (F009) which were generated during the closure of the Former Metal Stripping Tanks (SWMU 5). The materials were stored here until they were disposed. This unit was only active for the one-time closure event.

**Wastes Managed:** Nine drums of hazardous waste (F009) which were generated from the closure of the Former Metal Stripping Tanks (SWMU 5) were stored here until they were disposed.

**History of Releases:** No history of a release was identified during the PA or during the VSI.

**Potential for Past/Present Release:**

	<b>High</b>	( )
	<b>Moderate</b>	( )
	<b>Low</b>	(X)

**Conclusions:** There has been no reported release at this unit and there is no visible evidence that any release has occurred. Therefore, no further sampling or investigation is needed at this unit.

## **SWMU 5 - Former Metal Stripping Tanks**

**Report Photograph No.:** 4

**Log Book Photograph No(s):** 1-11

**Period of Operation:** 1944 to 1978

**Location:** This unit was located in the southwest corner of the basement of the 1860 N. Elston address.

**Physical Description:** This unit consisted of two, 100-gallon above-ground tanks which were used to clean decrepit pieces of metal prior to the plating process. A caustic solution containing cyanide was used as a stripping solution. Spent solutions were sent to the Former Waste Water Pretreatment Area (SWMU 2) for pretreatment prior to discharge to the municipal sanitary sewer.

**Wastes Managed:** This unit generated spent cyanide bearing stripping solutions (F009). The quantity of waste generated from this unit could not be determined from the file materials reviewed during the PA or during the VSI.

**History of Releases:** This unit was investigated by wipe samples of decontaminated surfaces and subsurface soil borings as part of closure activities. Walls and floors were decontaminated until the wipe samples were within IEPA clean criteria. The subsurface soil investigations did identify contaminated soil beneath the basement floor. Elevated levels of nickel, chromium, and cyanide were identified during the December 23, 1993 soil investigation. The IEPA approved closure of this unit without removal of these soils because excavation of the soils would have jeopardized the building's structural integrity. Wastes generated during the closure were transferred to the Former Basement Hazardous Waste Storage Area (SWMU 4) for storage prior to disposal.

**Potential for Past/Present Release:**

<b>High</b>	<b>( X )</b>
<b>Moderate</b>	<b>(   )</b>
<b>Low</b>	<b>(   )</b>

**Conclusions:** Although soils exceeding SSLs were left in place at this unit, the IEPA has approved closure of the unit with institutional controls. Therefore, no further investigation is recommended for this unit.

#### IV. AREAS OF CONCERN

There were no Areas of Concern (AOCs) identified during the PA and VSI at the Aero Plating Works facility.

## V. CONCLUSIONS

Based on available file materials, observations made during the VSI, and analytical results of soil sampling conducted at the facility, further investigations under Corrective Action Authorities do not appear warranted for the facility. The releases which were documented at the Former Hazardous Waste Storage Area (SWMU 1), Former Waste Water Pretreatment Area (SWMU 2), and the Former Metal Stripping Tanks (SWMU 5) have been addressed since the IEPA approved closure of each unit. Therefore, these units do not appear to be a threat to public health or the environment, as long as institutional controls are implemented and maintained.

## VI. REFERENCES

1. April 24, 1973, IEPA Permit-to-Operate for a boiler at Aero Plating Works.
2. September 15, 1983, IEPA Observation Report
3. January 24, 1984, IEPA Special Analysis Forms
4. February 13, 1986, U.S. EPA Office of Administrative Law Judges, Aero Plating Works Initial Decision
5. October 15, 1987, Stone, Pogrun, Korey & Spagat submittal of closure plan to IEPA for Aero Plating Works
6. October 28, 1987, United States District Court Judgement Order against Louis J. Maiorano Sr. and J. Maiorano Jr.
7. December 10, 1987, IEPA review comments on closure plan submitted to Louis J. Maiorano, Jr.
8. June 6, 1988, Scientific Control Laboratories revised closure plan for Aero Plating Works submitted to IEPA
9. July 25, 1988, IEPA letter to J. Maiorano, Jr. conditionally approving closure plan.
10. August 23, 1990, IEPA RCRA Inspection Report of Aero Plating Works facility.
11. July 18, 1991, Scientific Control Laboratories, Inc. letter reporting sampling results.
12. September 4, 1991, IEPA letter to U.S. EPA regarding the need for a revised closure plan based on the results reported in the July 18, 1991 letter.
13. February 11, 1993, IEPA letter to Seymour Shiner disapproving revised closure plan dated November 13, 1992
14. February 11, 1993, IEPA letter to Seymour Shiner disapproving revised closure plan.
15. January 27, 1994, ACES Maintenance revised closure plan for Aero Plating Works facility
16. May 23, 1994, IEPA letter conditionally approving the Jan. 27, 1994 revised closure plan.
17. November 8, 1995, ACES Maintenance letter to the IEPA regarding soil borings in the Former Hazardous Waste Storage Area (SWMU 1).

18. December 8, 1995, IEPA Internal memo regarding review of Aero Plating Works request for closure.
19. February 9, 1996, IEPA letter to Seymour Shiner regarding conditional closure of site.
20. VSI Logbook, R. Budzilek and D. Lewis, Metcalf & Eddy, Inc., December 29, 1997.



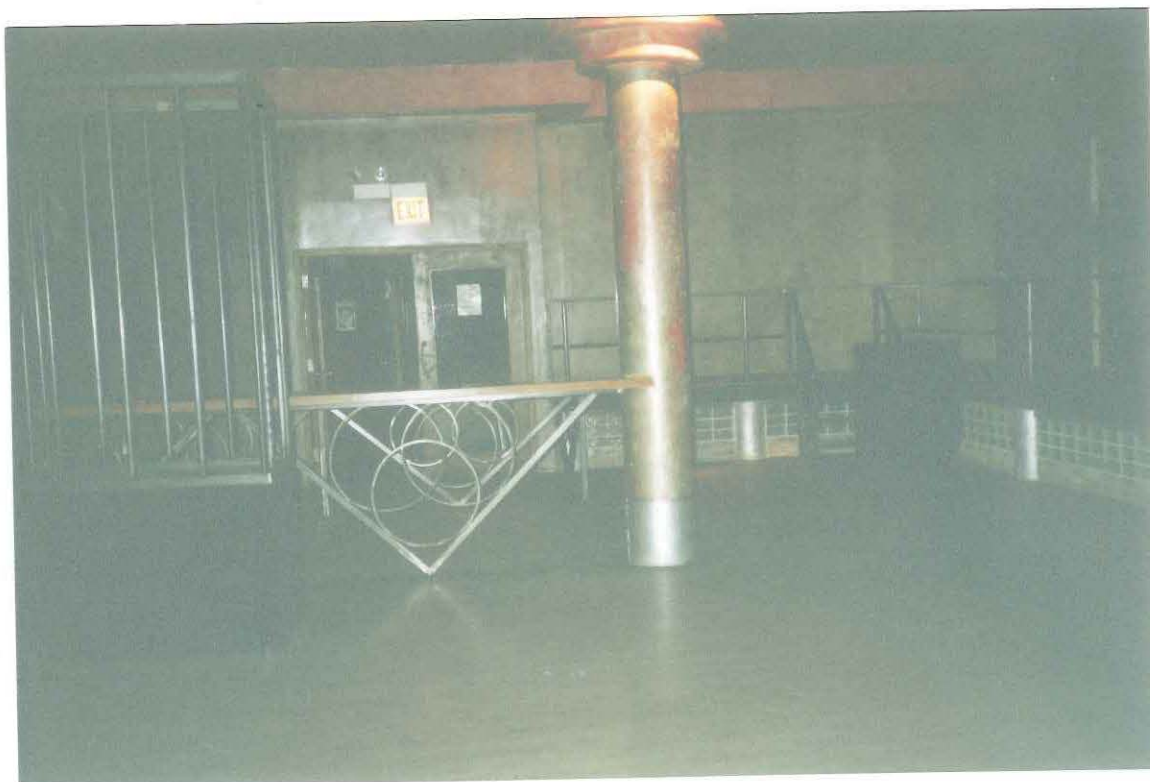
APPENDIX A  
Photograph Log



Report Photo No.: 1  
Log Book Photo No.: 1-7  
Date: December 29, 1997

Time: 1440  
Direction: South

Description: View of the location of the Former Hazardous Waste Storage Area (SWMU 1) located in the southwest portion of the 1850 N. Elston address.



Report Photo No.: 2  
Log Book Photo No.: 1-8  
Date: December 29, 1997

Time: 1445  
Direction: North

Description: View of the Former Waste Water Pretreatment Area (SWMU 2) located in the northeast corner of the 1850 N. Elston address.



Report Photo No.: 3  
Log Book Photo No.: 1-5  
Date: December 29, 1997

Time: 1425  
Direction: West

Description: View of the first floor of the 1860 N. Elston address. This is the former location of the Former Nickel Plating Line (SWMU 3). The Former Basement Hazardous Waste Storage Area (SWMU 4) was located towards the back of this photo near the mirror. Note that the area is currently part of the restaurant/night club.



Report Photo No.: 4  
Log Book Photo No.: 1-11  
Date: December 29, 1997

Time: 1505  
Direction: West

Description: View of the western-most room of the basement at the 1860 N. Elston address.  
This is the location of the Former Metal Stripping Tanks (SWMU 5).





Report Photo No.: 5  
Log Book Photo No.: 1-1  
Date: December 29, 1997

Time: 1300  
Direction: Southwest

Description: View of exterior of the 1860 N. Elston portion of the facility.



Report Photo No.: 6  
Log Book Photo No.: 1-2  
Date: December 29, 1997

Time: 1305  
Direction: Northwest

Description: View of east exterior wall of the facility along North Elston Street.



Report Photo No.: 7  
Log Book Photo No.: 1-3  
Date: December 29, 1997

Time: 1310  
Direction: South

Description: View along back wall (west side) of facility.





Report Photo No.: 8  
Log Book Photo No.: 1-4  
Date: December 29, 1997

Time: 1420  
Direction: West

Description: View of the second floor of the 1860 N. Elston building. No industrial activities were performed by Aero Plating on the second floor. As shown in the photograph, the second floor is currently part of the restaurant/night club.



Report Photo No.: 9  
Log Book Photo No.: 1-6  
Date: December 29, 1997

Time: 1435  
Direction: West

Description: View of the former truck loading/unloading dock area located in the southwest corner of the 1850 N. Elston address.



Report Photo No.: 10  
Log Book Photo No.: 1-9  
Date: December 29, 1997

Time: 1455  
Direction: East

Description: View of eastern most section of the basement at the 1860 N. Elston address.



Report Photo No.: 11  
Log Book Photo No.: 1-10  
Date: December 29, 1997

Time: 1500  
Direction: East

Description: View of central portion of the basement of the 1860 N. Elston address.





# JOB BOOK

FROM PENINSULAR PUBLISHING

PROJECT NAME Former Aero Plating

PROJECT NUMBER #156052

CREW BUDZILEK/LEWIS

DATE 12/29/97 BOOK # 1 OF 1

WEATHER \_\_\_\_\_

FIELD BOOK

16 PAGE

8 LEAVES

50% RAG

# CURVE FORMULAS

$$R = T \cot. \frac{1}{2} I$$

$$R = \frac{50}{\sin. \frac{1}{2} D}$$

$$E = R \text{ ex. sec } \frac{1}{2} I$$

$$E = T \tan \frac{1}{4} I$$

$$\text{Chord def.} = \frac{\text{chord}^2}{R}$$

$$\text{No. chords} = \frac{I}{D}$$

$$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$$

Distance, divided by twice the radius, will equal  
 nt to curve, very nearly.  
 Given distance and deflection.  
 the given distance by .01745 (def. for 1° for 1 ft.)  
 ion by the product.  
 Given deflection by 57.3, and divide the product by  
 or a given angle and distance. Multiply the angle  
 ct by the distance.

## GENERAL DATA

ANGLES. Square the altitude, divide by twice the  
 base for hypotenuse.  
 t.  $10, 10^2 \div 200 = .5$ .  $100 + .5 = 100.5$  hyp.  
 t.  $25, 25^2 \div 200 = 3.125$ .  $100 - 3.125 = 96.875$  = Base.  
 a first example, .002; in last, .045.  
 ail in one mile of track: multiply weight per yard

correction for curvature and refraction, in feet  
 equal to  $0.574 d^2$ , where  $d$  is the distance in miles.  
 rature alone is closely,  $\frac{1}{3} d^2$ . The combined cor-

If  $d_1, d_2, d_3$ , etc. are the discrepancies of various  
 and if  $\sum d^2$  = the sum of the squares of these differ-  
 er of observations, then the probable error of the

(1)

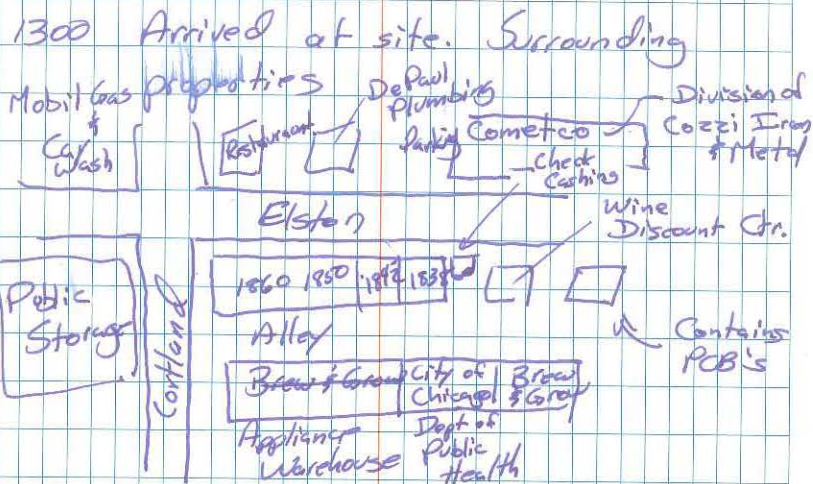
## ES IN DECIMALS OF A DEGREE

21'	.3500	31'	.5167	41'	.6833	51'	.8500
22	.3667	32	.5333	42	.7000	52	.8667
23	.3833	33	.5500	43	.7167	53	.8833
24	.4000	34	.5667	44	.7333	54	.9000
25	.4167	35	.5833	45	.7500	55	.9167
26	.4333	36	.6000	46	.7667	56	.9333
27	.4500	37	.6167	47	.7833	57	.9500
28	.4667	38	.6333	48	.8000	58	.9667
29	.4833	39	.6500	49	.8167	59	.9833
30	.5000	40	.6667	50	.8333	60	1.0000

## ES IN DECIMALS OF A FOOT

16	5-16	3-16	1-16	1-8	1-4	1-2	1
.56	.0208	.0260	.0313	.0417	.0521	.0625	.0729
1	5	6	7	8	9	10	11
.333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

Former Aero Plating Works  
 Dec 29, 1997



1842 - Bronze Memorial Co.

1838 - Wagner Foundry (Signs, Industrial & Art Casting)

Waste managed by  
 Waste Management Metro  
 626-8300

ACEs performed soil boring behind  
 building a couple months ago to  
 characterize soils. No report seen  
 yet.

Robert P. Budgett 12/29/97



1345 Met with Mr. Seymour Shiner.

RiverWest occupies both  
1550 - 1860. N. Elston

Since 3-5 years ago.  
Richard lost lease.

Former tenant, medical supply  
place, moved out 2 years ago.

Bamboo furniture manufacturer  
moved out  $\pm$  5 years ago from  
front portion of building.

Mr. Shiner inherited property  
about 15 years ago.

Not aware of any wastes  
other than refuse

City Water/Sewer.

No wells.

No septic.

Michael R. Brugh

12/29/92

No underground storage tanks at  
the facility.

1415 Tan Cane at ADEs arrived.

Hazardous waste storage area  
now covered with concrete and  
pool tables.

Waste water treatment area  
near NW corner of 1850  
now part of bar also.

Reet Soil Boring 60' @ 22' clay  
above

Basement formerly used for  
a playing line. Metal stairway  
~~was~~ was cleaned from  
the walls.

Floor still original floor.

Borings in basement  
were clean.

Michael R. Brugh

12/29/92

Drain in south side of  
the basement went to  
city sewer

~~Don Coyne~~ R13

1530 Reported site

Robert R. Buehler  
12/29/37

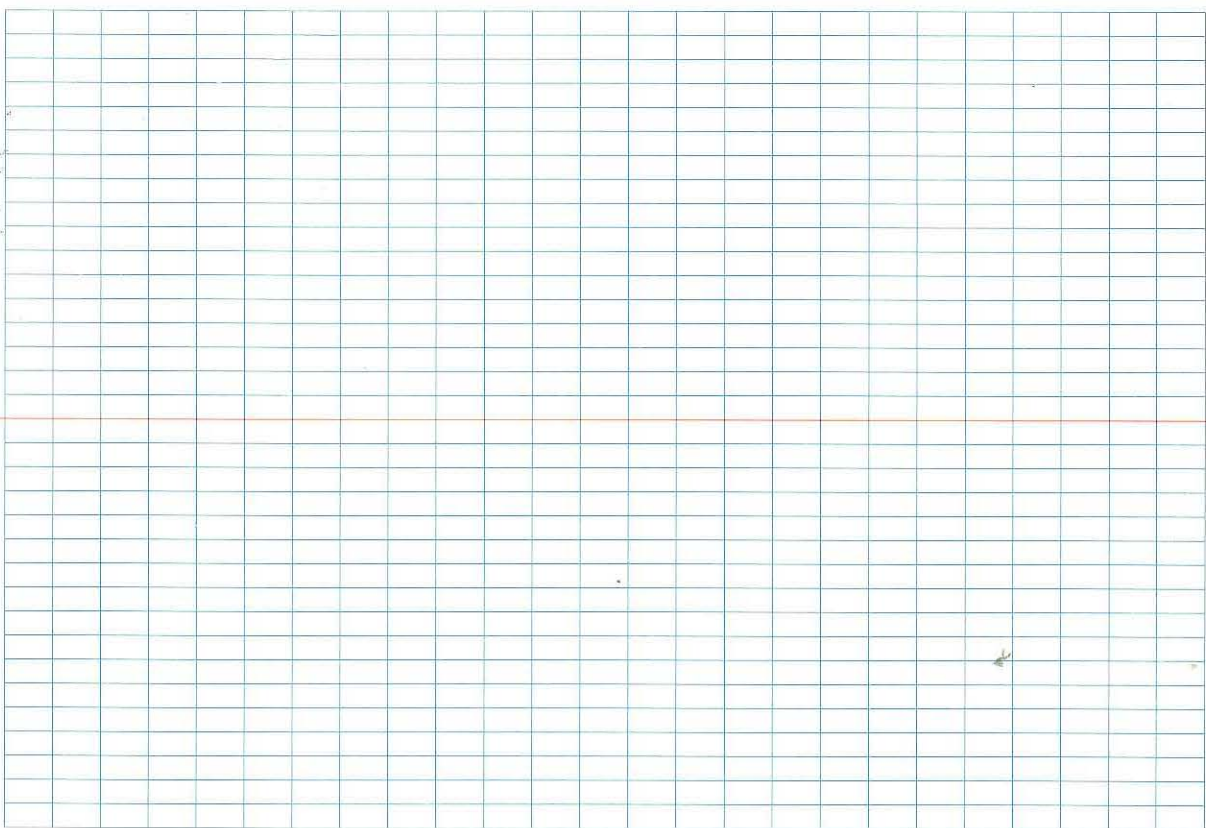




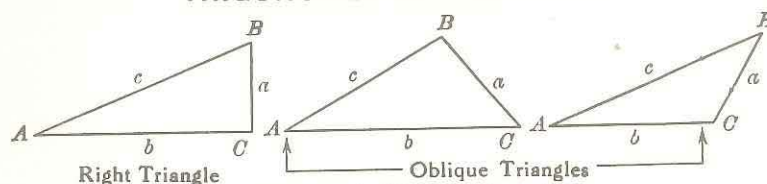
PHOTO LOG

12/29/97

Photo	Desc.	Dir.	Time
1	Exterior of 1860	SW	1300
2	1850 & 1860 Exterior along Ebbon <sup>N</sup>	NW	1305
3	West side along alley	S	1310
4	2 <sup>nd</sup> floor of 1860 address	W	1420
5	1 <sup>st</sup> floor of 1860. Former site of Plating Line	W	1425
6	Former loading dock area	W	1435
7	Former Haz Waste SA	S	1440
8	Former WWPT Area	N	1445
9	Eastrn room of basement	E	1455
10	Central area of basement	E	1500
11	West Basement - Former Stripping line	W	1505

Robert P. Buehler 12/29/97

## TRIGONOMETRIC FORMULAS



### Solution of Right Triangles

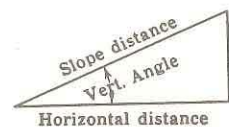
For Angle A.  $\sin = \frac{a}{c}$ ,  $\cos = \frac{b}{c}$ ,  $\tan = \frac{a}{b}$ ,  $\cot = \frac{b}{a}$ ,  $\sec = \frac{c}{a}$ ,  $\csc = \frac{c}{b}$

Given	Required	Formula
$a, b$	$A, B, c$	$\tan A = \frac{a}{b} = \cot B$ , $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
$a, c$	$A, B, b$	$\sin A = \frac{a}{c} = \cos B$ , $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
$A, a$	$B, b, c$	$B = 90^\circ - A$ , $b = a \cot A$ , $c = \frac{a}{\sin A}$
$A, b$	$B, a, c$	$B = 90^\circ - A$ , $a = b \tan A$ , $c = \frac{b}{\cos A}$
$A, c$	$B, a, b$	$B = 90^\circ - A$ , $a = c \sin A$ , $b = c \cos A$

### Solution of Oblique Triangles

Given	Required	Formula
$A, B, a$	$b, c, C$	$b = \frac{a \sin B}{\sin A}$ , $C = 180^\circ - (A + B)$ , $c = \frac{a \sin C}{\sin A}$
$A, a, b$	$B, c, C$	$\sin B = \frac{b \sin A}{a}$ , $C = 180^\circ - (A + B)$ , $c = \frac{a \sin C}{\sin A}$
$a, b, C$	$A, B, c$	$A + B = 180^\circ - C$ , $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ $c = \frac{a \sin C}{\sin A}$
$a, b, c$	$A, B, C$	$s = \frac{a + b + c}{2}$ , $\sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}$ , $C = 180^\circ - (A + B)$
$a, b, c$	Area	$s = \frac{a + b + c}{2}$ , $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
$A, b, c$	Area	$\text{area} = \frac{bc \sin A}{2}$
$A, B, C, a$	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

### REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle =  $5^\circ 10'$ . Since  $\cos 5^\circ 10' = .9959$ , horizontal distance =  $319.4 \times .9959 = 318.09$  ft.  
Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained.  $\cos 5^\circ 10' = .9959$ .  $1 - .9959 = .0041$ .  $319.4 \times .0041 = 1.31$ .  $319.4 - 1.31 = 318.09$  ft.

When the rise is known, the horizontal distance is approximately the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance =  $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$  ft.

APPENDIX B  
Visual Site Inspection Field Notebooks

## CURVE FORMULAS

$T = R \tan \frac{1}{2} I$ $T = \frac{50 \tan \frac{1}{2} I}{\sin \frac{1}{2} D}$ $\sin \frac{1}{2} D = \frac{50}{R}$ $\sin \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$	$R = T \cot \frac{1}{2} I$ $R = \frac{50}{\sin \frac{1}{2} D}$ $E = R \operatorname{ex. sec} \frac{1}{2} I$ $E = T \tan \frac{1}{2} I$	$\text{Chord def.} = \frac{\text{chord}^2}{R}$ $\text{No. chords} = \frac{I}{D}$ $\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$
--	--	--

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve, very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

## GENERAL DATA

**RIGHT ANGLE TRIANGLES.** Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt.  $10.10^2 \div 200 = .5$ ,  $100 + .5 = 100.5$  hyp.

Given Hyp. 100, Alt.  $25.25^2 \div 200 = 3.125$ ,  $100 - 3.125 = 96.875 =$  Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

**LEVELING.** The correction for curvature and refraction, in feet and decimals of feet is equal to  $0.574 d^2$ , where  $d$  is the distance in miles. The correction for curvature alone is closely,  $\frac{1}{3} d^2$ . The combined correction is negative.

**PROBABLE ERROR.** If  $d_1, d_2, d_3$ , etc. are the discrepancies of various results from the mean, and if  $\sum d^2$  the sum of the squares of these differences and  $n$  = the number of observations, then the probable error of the mean =  $\pm 0.6745 \sqrt{\frac{\sum d^2}{n(n-1)}}$

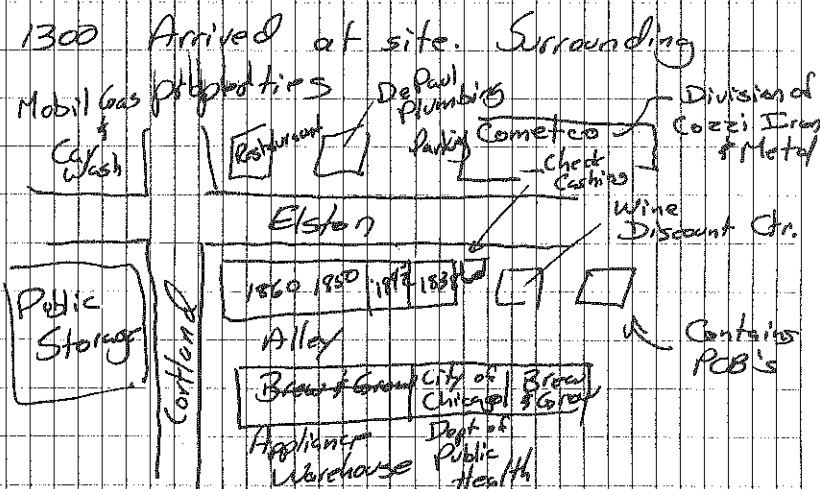
### MINUTES IN DECIMALS OF A DEGREE

1'	.0167	11'	.8833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

### INCHES IN DECIMALS OF A FOOT

1-16	3-32	$\frac{1}{8}$	3-16	$\frac{1}{4}$	5-16	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625
1	2	3	4	5	6	7	8	9	10
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333
									.9167

Former Aero Plating Works  
Dec 28, 1997



1842 - Bronze Memorial Co.

1838 - Wagner Foundry (Signs, Industrial & Art Casting)

Waste managed by  
Waste Management Metro  
626-8300

ACEs performed soil boring behind building a couple months ago to characterize soils. No report seen yet.

Robert P. Buehl 12/29/97

1345 Met with Mr. Seymour Shiner.  
 RiverWest occupies both  
 1850-1860. N. Elston  
 Since 3-5 years ago.  
 Richard Post Lessee.  
 Former tenant, medical supply  
 place, moved out 2 years ago.  
 Bamboo Furniture manufacturer  
 moved out  $\pm$  5 years ago from  
 front portion of building.  
 Mr. Shiner inherited property  
 about 15 years ago.  
 Not aware of any wastes  
 other than refuse.  
 City water/sewer.  
 No wells.  
 No septic.  
 Robert P. Buehler 12/29/97

No underground storage tanks at  
 the facility.  
 1415 Dan Cope of AEFs arrived.  
 Hazardous waste storage area  
 now covered with concrete and  
 pool tables.  
 Waste water treatment area  
 near NW corner of 1850  
 now part of bar also.  
 Read Soil boring log @ 22' clay  
 above.  
 Basement formerly used for  
 a plating line. Nickel staining  
~~the~~ walls was cleaned from  
 the walls.  
 Floor still original floor.  
 Borings in basement  
 were clean.  
 Robert P. Buehler 12/29/97

Drain in south side of  
the basement went to  
City Sewer

Don Coyne - R13

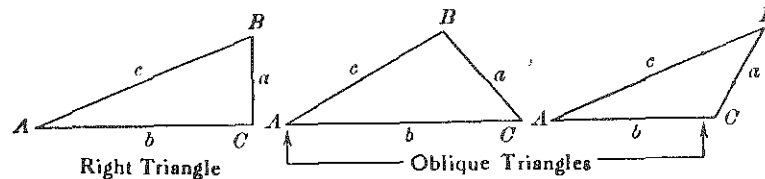
1530 Departed site

Robert P. Boydall 12/29/87

PHOTO LOG 12/29/97			
Photo	Desc.	Dir.	Time
1	Exterior of 1860	SW	1300
2	1850 & 1860 Exterior along E. side NW		1305
3	West side along alley	S	1310
4	2nd Floor of 1860 address	W	1420
5	1st Floor of 1860. Former site of Plating Line	W	1425
6	Former loading dock area	W	1435
7	Former Haz Waste SA	S	1440
8	Former WWPT Area	N	1445
9	Eastern room of basement	E	1455
10	Central area of basement	E	1500
11	West Basement - Former Stripping Area	W	1505

Robert P. Beardsley 12/29/97

## TRIGONOMETRIC FORMULAS

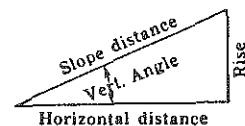


**Solution of Right Triangles**  
For Angle A.  $\sin = \frac{a}{c}$ ,  $\cos = \frac{b}{c}$ ,  $\tan = \frac{a}{b}$ ,  $\cot = \frac{b}{a}$ ,  $\sec = \frac{c}{b}$ ,  $\csc = \frac{c}{a}$

Given $a, b$	Required $A, B, c$	$\tan A = \frac{a}{b} = \cot B$ , $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
$a, c$	$A, B, b$	$\sin A = \frac{a}{c} = \cos B$ , $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
$A, a$	$B, b, c$	$B = 90^\circ - A$ , $b = a \cot A$ , $c = \frac{a}{\sin A}$
$A, b$	$B, a, c$	$B = 90^\circ - A$ , $a = b \tan A$ , $c = \frac{b}{\cos A}$
$A, c$	$B, a, b$	$B = 90^\circ - A$ , $a = c \sin A$ , $b = c \cos A$

Given $A, B, a$	Required $b, c, C$	$b = \frac{a \sin B}{\sin A}$ , $C = 180^\circ - (A + B)$ , $c = \frac{a \sin C}{\sin A}$
$A, a, b$	$B, c, C$	$\sin B = \frac{b \sin A}{a}$ , $C = 180^\circ - (A + B)$ , $c = \frac{a \sin C}{\sin A}$
$a, b, C$	$A, B, c$	$A + B = 180^\circ - C$ , $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ , $c = \frac{a \sin C}{\sin A}$
$a, b, c$	$A, B, C$	$s = \frac{a + b + c}{2}$ , $\sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ , $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}$ , $C = 180^\circ - (A + B)$
$a, b, c$	Area	$s = \frac{a + b + c}{2}$ , $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
$A, b, c$	Area	$\text{area} = \frac{bc \sin A}{2}$
$A, B, C, a$	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

## REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle =  $5^\circ 10'$ . Since  $\cos 5^\circ 10' = .9959$ , horizontal distance =  $319.4 \times .9959 = 318.09$  ft.  
Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine  $5^\circ 10' = .9959$ .  $1 - .9959 = .0041$ .  $319.4 \times .0041 = 1.31$ .  $319.4 - 1.31 = 318.09$  ft.

When the rise is known, the horizontal distance is approximately the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance =  $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$  ft.

APPENDIX C  
General Location Map  
and  
Facility Layout and SWMU Locations

DISCHARGE TO SEWER

NORTH ELSTON AVENUE

WASTEWATER PRE-TREATMENT  
EQUIPMENT  
SWMU 2

STORAGE

SHIPPING AND  
RECEIVING

CARTLAND STREET

SWMU 3

PLATING LINE

SWMU 5

(basement)

SWMU 4

RAISED DOCK

SUNKEN DRIVE

SWMU 1

SLUDGE FROM PLATING LINE  
AND WASTEWATER PRETREATMENT  
EQUIPMENT  
(ABOVE GROUND TANK)

HAZARDOUS WASTE  
STORAGE AREA

SHIPPING AND RECEIVING ALLEY



SCALE  
0 FEET 20

1850-1860 NORTH ELSTON AVENUE

AERO PLATING

MAIN FLOOR

DRAWN BY:

JAMES McELROY

DATE:

25 JAN 94



LP041

Time Collected: 11:40 A

Lab #

Date Collected: 1-24-84

SPECIAL ANALYSIS FORM

Date Received: C 3483 JAN 25 84

X101  
COUNTY: CookILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

FILE HEADING:

FILE NUMBER:

Chicago/Aero 03162301

SOURCE OF SAMPLE: (Exact Location) "Chromic acid solution  
to be recycled into plating line"

PHYSICAL OBSERVATIONS, REMARKS:

dark brown-yellow liquid

TESTS REQUESTED:

See Parameters below

COLLECTED BY:

Therese Schroeder

TRANSPORTED BY:

John P. Miller

LABORATORY

RECEIVED BY:

A. J. J.

DATE  
COMPLETED:DATE FEB. 21 1984  
FORWARDED:

Pb = 0.8

Cr = 36.000

Cd = 0.02

Fluorides = 234.10

Zn = 27.0

Cu = 145

Fe = 967.6

Acidity titration - 49,000 mg/l acid as H<sub>2</sub>SO<sub>4</sub>

Sulfate - 3,100

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.

Daugherty

40041

Time Collected: 1150 A

Lab #

Date Collected: 1/24/98

## SPECIAL ANALYSIS FORM

Date Received: 2/25/98 JAN 25 1998

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

X 102

Cook

FILE HEADING:

Chicago / Area

FILE NUMBER:

03162301

SOURCE OF SAMPLE: (Exact Location) "chromic acid solution"

to be recycled into plating line"

PHYSICAL OBSERVATIONS, REMARKS:

dark brown-yellow liquid

TESTS REQUESTED:

501 b:ba

COLLECTED BY:

Thary J. J. J.

TRANSPORTED BY:

Thary J. J. J.

LABORATORY

RECEIVED BY:

A. J. J.

DATE COMPLETED:

DATE FEB 21 1998  
FORWARDED:

PH - 0.7

Ce - 36.500

Cd 0.02

Fluoride: 227.000

Zn 27.5

Cu 140

Fe 694.2

Acidity titration - 53,900 mg/l. acid as H<sub>2</sub>SO<sub>4</sub>

S. titr 3.500

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.

L.P.C.41

Time Collected: 12:00

Lab #

Date Collected: 1/24/84

SPECIAL ANALYSIS FORM

Date Received C 3485 JAN 25

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY: X 103 Cook

FILE READING: Chicago Area

FILE NUMBER: 03162301

SOURCE OF SAMPLE: (Exact Location) "Chemical acid solution to be  
recycled into plating line"

PHYSICAL OBSERVATIONS, REMARKS: dark brown - yellow liquid

TESTS REQUESTED: See below

COLLECTED BY: Mary Anderson TRANSPORTED BY: Mary Anderson  
LABORATORY

RECEIVED BY: J. Taylor DATE COMPLETED: DATE FORWARDED: 21. 1984

pH 0.6

Cu tot 38.500

Cd 0.02

Fluorides 229.00

Zn 28.5

Cu 140

Fe 277.6

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED

Acidity titration - 53,900 mg/l acid as H<sub>2</sub>SO<sub>4</sub>

Sulfate 3,400

LP.C41

Time Collected: 12:10 PM

Lab #

Date Collected: 11/24/98

## SPECIAL ANALYSIS FORM

Date Received 3486 JAN 25 99

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY: X 104

FILE HEADING:

FILE NUMBER:

Cook

Chicago / A2:20

023162301

SOURCE OF SAMPLE: (Exact Location) "Chromium acid solution to be recycled  
into plating line"

PHYSICAL OBSERVATIONS, REMARKS: dark brown - yellow liquid

TESTS REQUESTED: see below

COLLECTED BY: Mary J. Anderson

TRANSPORTED BY: Jimmy L. (see file)

LABORATORY

RECEIVED BY: M. J. Anderson

DATE  
COMPLETED:DATE FEB. 21 1999  
FORWARDED:

pH 0.8

Cr<sup>6+</sup> 37,000RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.Cl<sup>-</sup> 145

Fluoride 230.00

Zn 26.5

Cd 0.02

Fe 262.0

Acidim. titration - 53,900 mg/l acid as H<sub>2</sub>SO<sub>4</sub>

Sulfates 3,300

: L.P.C.H.

Time Collected: 1:15 PM

Lab #

Date Collected: 1/24/98

## SPECIAL ANALYSIS FORM

Date Received 2/27 1998

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

XIC5

FILE HEADING:

Cook

Chicago Area

FILE NUMBER:

03162301

SOURCE OF SAMPLE: (Exact Location) Chemical acid solution to be recycled  
into plating line

PHYSICAL OBSERVATIONS, REMARKS: dark brown - yellow liquid

TESTS REQUESTED: see below

COLLECTED BY:

TRANSPORTED BY:

LABORATORY

RECEIVED BY:

DATE  
COMPLETED:DATE  
FORWARDED: 21 1984

pH 0.8

Ort 34,000

Cd 0.02

Fluoride 220.00

Zn 26.5

Cu 130

Fe 898.1

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIEDAcid. titration - 53,900 mg/l acid. as H<sub>2</sub>SO<sub>4</sub>

Sulfide 3,400

: LROH

Time Collected: 12:30 PM

Lab #

C 3488 JAN 25

Date Collected: 1/24/84

SPECIAL ANALYSIS FORM

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

X106

FILE HEADING:

Cook

Chicago / Area

FILE NUMBER:

C51623C.1

SOURCE OF SAMPLE: (Exact Location) "chromic acid solution to be  
recycled into plating line"

PHYSICAL OBSERVATIONS, REMARKS: dark brown-yellow liquid

TESTS REQUESTED: see below

COLLECTED BY:

TRANSPORTED BY:

LABORATORY

RECEIVED BY:

DATE  
COMPLETED:DATE  
FORWARDED: FEB. 21, 1984

pH 0.7

Cd<sup>tot</sup> 37,500

Cd 0.02

Fluoride 226.00

Zn 27.0

Cu 140

Fe 781.8

Acid titration - 53,900 mg/l acid as H<sub>2</sub>SO<sub>4</sub>

Sulfate 3,400

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED

P.041

Time Collected: 12:37 PM  
Date Collected: 1-24-84Lab #  
SPECIAL ANALYSIS FORM: C 3472 JAN 25 84  
Date ReceivedX 107  
COUNTY: Cook FILE HEADING: Chicago / Aero FILE NUMBER: 103162301SOURCE OF SAMPLE: (Exact Location) Dark blue drums at west corner of bldg "mud from basement according to operator"PHYSICAL OBSERVATIONS, REMARKS: beige sludge & gravel with oily sheenTESTS REQUESTED: EP toxicity for parameters below & CNCOLLECTED BY: Mary Schneider TRANSPORTED BY: John J. Schneider  
LABORATORYRECEIVED BY: M. J. Sch DATE COMPLETED: DATE FEB 12 1984 FORWARDED:

Cr	0.12	RESULTS EXPRESSED IN MG/LITER UNLESS OTHERWISE SPECIFIED.
Pb	< 0.03	
CN (mg/kg)	225.6	
Ni	40	
Cd	0.01	
Zn	7.5	

RECEIVED

ILL. E.P.A. - D.L.P.C.  
STATE OF ILLINOISInitial pH - 9.8  
Final pH - 5.2

-P041

Time Collected: 12:45 Lab #  
Date Collected: 1-24-84 SPECIAL ANALYSIS FORM Date Received C 3473 JAN 25

X108 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL  
COUNTY: Cook FILE HEADING: Chicago / Aero FILE NUMBER: 03162301

SOURCE OF SAMPLE: (Exact Location) dark blue drums at west corner of bldg. "mud from basement according to operators"

PHYSICAL OBSERVATIONS, REMARKS: dark brown solid with yellow tinge

TESTS REQUESTED: ED toxicity for parameters below & CN

COLLECTED BY: Therese L. Johnson TRANSPORTED BY: 1/24/84  
LABORATORY

RECEIVED BY: A. J. [unclear] DATE COMPLETED: DATE FORWARDED: 12 1984

<u>Cr</u>	<u>0.05</u>	RESULTS EXPRESSED IN MG/LITER UNLESS OTHERWISE SPECIFIED.
<u>Pb</u>	<u>0.03</u>	
<u>Ni</u>	<u>180</u>	
<u>Cd</u>	<u>0.04</u>	
<u>CN</u>	<u>511.2 mg/kg (from)</u>	
<u>Zn</u>	<u>13.0</u>	

Initial pH - 8.4

Final pH - 5.0



LP041

Time Collected: 12:50 PM

Lab #

Date Collected: 1-21-84

SPECIAL ANALYSIS FORM

Date Received 2-7-84 JAN 25 07

COUNTY: X109 COOK

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

FILE HEADING:

FILE NUMBER:

Chicago/Aero 03162301

SOURCE OF SAMPLE: (Exact Location)

dark blue drums at  
west corner of bldg. "mud from  
basement" according to operator

PHYSICAL OBSERVATIONS, REMARKS:

yellowish brown sludge

TESTS REQUESTED:

EP toxicity on parameters  
below & CN

COLLECTED BY:

Mary V. Casade

TRANSPORTED BY:

Jim H. Brown

LABORATORY

RECEIVED BY:

D. E. ...

DATE  
COMPLETED:DATE FEB. 17, 1984  
FORWARDED:

Cr

0.17

Pb

0.54

Ni

170

Cd

0.15

Zn

18.0

CN

1437 mg/kg (ppm)

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.

Initial pH - 9.7

Final pH - 5.0

L.P. 041

Time Collected: 1:25 PM Lab # C 3477 JAN 25 84  
 Date Collected: 1-24-84 SPECIAL ANALYSIS FORM Date Received 1-24-84

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
 DIVISION OF LAND/NOISE POLLUTION CONTROL  
 COUNTY: X110 COOK FILE HEADING: CHICAGO/AERO FILE NUMBER: 03162301

SOURCE OF SAMPLE: (Exact Location) Tank on east side  
of Bldg  $\approx$  5' x 12' x 4'

PHYSICAL OBSERVATIONS, REMARKS: yellowish brown sludge  
from Cr Ni plating line

TESTS REQUESTED: EP toxicity on parameters  
below & CN.

COLLECTED BY: Thom V. Vancura TRANSPORTED BY: Thom V. Vancura  
 LABORATORY

RECEIVED BY: Thom V. Vancura DATE COMPLETED: 17 1984 DATE FORWARDED: 17 1984

ANALYTE	RESULTS	RESULTS EXPRESSED IN:
Cr	< 0.01	MG/LITER UNLESS OTHERWISE SPECIFIED
Pb	< 0.03	
Ni	1310	
Cd	< 0.01	
Zn	1.1	
CN	5.55 mg/kg (som)	

Initial pH — 6.8  
 Final pH — 5.2

LP041

Time Collected:

1:30pm

Lab #

Date Collected:

1-24-84

## SPECIAL ANALYSIS FORM

Date Received:

3-17-98 JAN 25 94

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

XIII

Cook

FILE READING:

CHICAGO/AERO

FILE NUMBER:

103162301

SOURCE OF SAMPLE: (Exact Location)

From drum labelled  
cyanogran at east part of  
blkg.

PHYSICAL OBSERVATIONS, REMARKS:

dark brown solid with  
yellow finge

TESTS REQUESTED:

EP toxicity on parameters  
below & CN

COLLECTED BY:

Mary J. J. J.

TRANSPORTED BY:

John J. J. J.

LABORATORY

RECEIVED BY:

M. J. J.

DATE

COMPLETED:

DATE

FEB 12 1994

FORWARDED:

Cr

0.04

Pb

0.41

Ni

2900

Cd

0.09

Zn

4.5

CN

71.1 mg/kg (avg)

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.

Initial pH - 6.8

Final pH - 5.1

LP041

Time Collected: 1:40 PM Lab #  
Date Collected: 1-24-84 SPECIAL ANALYSIS FORM Date Received: C 3475 JAN 25 1998

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL  
COUNTY: X112 COOK FILE HEADING: CHICAGO/AERO FILE NUMBER: 03162301

SOURCE OF SAMPLE: (Exact Location) blue drum at southwest corner of bldg.

PHYSICAL OBSERVATIONS, REMARKS: yellow-sludge with green liquid on top

TESTS REQUESTED: FP toxicity on parameters below & CN

COLLECTED BY: Thom. Richardson TRANSPORTED BY: 1/22/84 10:00 AM - 1/24/84  
LABORATORY U

RECEIVED BY: M. T. [signature] DATE COMPLETED: DATE FEB 12 1984 FORWARDED:

Cr	0.02	RESULTS EXPRESSED IN MG/LITER UNLESS OTHERWISE SPECIFIED.	<u>[signature]</u>
Pb	<0.03		
Zn	0.7		
Ni	1900		
Cd	<0.01		
CN	5.04 mg/kg (as m)		

Initial pH — 6.7

Final pH — 5.0

.. L.P. CH

Time Collected: 1:57pm

Lab #

Date Collected: 11/24/84

SPECIAL ANALYSIS FORM

Date Received 3/29 10/25/84

X 113 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL  
COUNTY: Cook FILE HEADING: Chicago Area FILE NUMBER: 0362301

SOURCE OF SAMPLE: (Exact Location) discharge to MSDPHYSICAL OBSERVATIONS, REMARKS: gold liquid field  
PH of 13.0TESTS REQUESTED: PH metals & CN  
No unidentifiable elementsCOLLECTED BY: Mary Schrad TRANSPORTED BY: John W. Conner  
LABORATORYRECEIVED BY: M. J. Schrad DATE COMPLETED: DATE FORWARDED: 17. 1984~~EDT~~ NO BOTTLE DaughertyCr - 5.7 RESULTS EXPRESSED INNi - 10.2 MG/LITER UNLESSCd - 0.01 OTHERWISE SPECIFIED.Pb - 0.07CN - 12.5

LPC41

Time Collected:

2:02 PM

Lab #

Date Collected:

1/24/84

SPECIAL ANALYSIS FORM

Date Received

3430 JAN 25 '84

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

Cook

FILE HEADING:

Chicago 1A+120

FILE NUMBER:

03162301

SOURCE OF SAMPLE: (Exact Location)

CN urine strip tank

PHYSICAL OBSERVATIONS, REMARKS:

gold liquid

TESTS REQUESTED:

CN

COLLECTED BY:

Charles J. [signature]

TRANSPORTED BY:

[signature]

LABORATORY

RECEIVED BY:

A. J. [signature]

DATE

COMPLETED:

DATE

FORWARDED 17 1984

CN - 7.5

[signature]

RESULTS EXPRESSED IN  
MG/LITER UNLESS  
OTHERWISE SPECIFIED.

Time Collected: 2:30pm

Lab #

Date Collected: 1-24-84

SPECIAL ANALYSIS FORM

Date Received

C 3478 JAN 25 84

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

FILE HEADING:

FILE NUMBER:

Y 115

Cook

CHICAGO / AERD

103162301

SOURCE OF SAMPLE: (Exact Location) acid drum in chemical room

PHYSICAL OBSERVATIONS, REMARKS:

field pH of 0.0

TESTS REQUESTED:

pH

COLLECTED BY:

Mary Schaefer

TRANSPORTED BY:

John A. Pucillo

LABORATORY

RECEIVED BY:

J. T. MillerDATE  
COMPLETED:DATE  
FORWARDED:

12 1984

pH - 0.4Dougherty

P041

Time Collected: 2:45 Lab #  
Date Collected: 1-24-84 SPECIAL ANALYSIS FORM Date Received 3-17-98 10N25

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL  
COUNTY: X 116 Cook FILE HEADING: CHICAGO/AERO FILE NUMBER: 03162301

SOURCE OF SAMPLE: (Exact Location) drum in chemical room - flammable liquid label

PHYSICAL OBSERVATIONS, REMARKS: field pH of 13.0

TESTS REQUESTED: pH

COLLECTED BY: Mary Schaefer TRANSPORTED BY: Jim & Linda  
LABORATORY

RECEIVED BY: OT DATE COMPLETED: DATE FORWARDED: 17, 1994

pH - 12.8

Rougherty



Time Collected: 2:40pm Lab #  
Date Collected: 1-24-84 SPECIAL ANALYSIS FORM Date Received: C 3489 JAN 25 '84

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL  
COUNTY: X 117  
COOK FILE HEADING: CHICAGO/AERO FILE NUMBER: 05162301

SOURCE OF SAMPLE: (Exact Location) Drum in Chemical  
Room labelled Copper Cyanide

PHYSICAL OBSERVATIONS, REMARKS: white powder

TESTS REQUESTED: CN

COLLECTED BY: Anthony Hernandez TRANSPORTED BY: William R. Brown et al.  
LABORATORY

RECEIVED BY: W. J. Smith DATE COMPLETED: DATE FORWARDED: 12 1984

CN - 7.9 mg/kg (approx)

J. Daugherty

P041

Time Collected:

3:13 PM

Lab #

Date Collected:

1-24-84

SPECIAL ANALYSIS FORM

Date Received

C 3482 JAN 25 84

X 118  
 COUNTY: COOK  
 FILE HEADING: CHICAGO / AERA  
 FILE NUMBER: 03112701  
 SOURCE OF SAMPLE: (Exact Location) Sludge from DALLMAN

PHYSICAL OBSERVATIONS, REMARKS:

yellowish brown solid

TESTS REQUESTED:

F.P. toxicity on Daphnia  
below & CN

COLLECTED BY: [signature] TRANSPORTED BY:

LABORATORY

RECEIVED BY: [signature]

DATE  
COMPLETED:DATE FEB 17 1984  
FORWARDED:

Cr	0.78	RESULTS EXPRESSED IN MG/LITER UNLESS OTHERWISE SPECIFIED.
Al	0.03	
Pb	0.04	
Zn	9.5	
Al	7.5	
CN	713.4 mg/kg (ppm)	

Initial pH - 10.2

Final pH - 5.1

APPENDIX D  
Analytical Results (1-24-84 Sampling Event)



001 1

APPENDIX E  
Documentation Regarding Sub-Grade Flooring

## ACES MAINTENANCE



November 8, 1996

Mr. Greg Sanders  
STATE OF ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
Bureau of Land, Leaking Underground Storage Tank Section  
P. O. Box 19276  
2200 Churchill Road  
Springfield, Illinois 62794-9276

RE: 1860 North Elston Avenue, Chicago, Illinois  
Previous area of aboveground tank for sludge from plating line and  
waste water pre-treatment equipment and hazardous waste sludge area.

Dear Mr. Sanders:

The area of concern was previously used as a waste sludge storage area. The area was near the building loading dock and used for temporary sludge storage, residual material and waste material from previous plating operation. Previously, analytical test indicated an elevated level of Nickel and Lead. It is not certain if the levels of Nickel and Lead was a result of the plating company storage or whether the high levels were from the "Chicago Fire" back fill.

The original closure plan suggested that the soil be removed from this area. To accommodate the removal operation, mechanical equipment and a large sterilizing system were removed from the room. The square footage of this room totals about 800 square feet. The room is 20 x 40 feet. There is one roof supporting wood timber in the center of the room.

The owner of the property has removed the concrete floor to facilitate the soil removal. A review of the space after the mechanical and sterilizing equipments were removed, revealed four partial windows. This construction is not typical with the remaining building construction.

Recent core drilling to collect soil samples for TCLP priority pollutants were restricted at a 4 foot depth. Several attempts were made at several random locations and solid concrete was encountered each time. An interview with the current owner confirmed the fact that the concrete was a basement floor from a previous building. The area had been back-filled with dirt to match the grade of the surrounding building. Indications are

Mr. Greg Sanders  
RE: 1860 North Elston Avenue  
Chicago, Illinois  
Page 2

that foundation walls exist below this floor to a minimum depth of 6 feet.  
(See photo log showing window location and floor plan diagram showing  
location of this area).

This newly discovered condition has prompted ACES MAINTENANCE to suggest  
a variance of the closure plan previously submitted. It is suggested that  
this particular location be sealed with a concrete slab thereby entombing  
any contamination that may be present in a complete concrete enclosure.  
Encasement of the material in concrete would also help avoid the possibility  
of structural damage caused by undermining a load bearing wall or weakening  
the center roof support in the middle of the space. There are no floor  
drains or other utilities in this room.

Please let me know if you agree with this variance request.

Sincerely,

Daniel T. Coyne  
Daniel T. Coyne,  
President

James McElroy  
James McElroy  
Registered Professional Engineer

ILLINOIS NO. 062-041899

cc: Mr. Seymour Shinar